Complete Summary

GUIDELINE TITLE

Role of endoscopy in enteral feeding.

BIBLIOGRAPHIC SOURCE(S)

Eisen GM, Baron TH, Dominitz JA, Faigel DO, Goldstein JL, Johanson JF, Mallery JS, Raddawi HM, Vargo JJ 2nd, Waring JP, Fanelli RD, Wheeler-Harbough J. Role of endoscopy in enteral feeding. Gastrointest Endosc 2002 Jun;55(7):794-7. [53 references] PubMed

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE
METHODOLOGY - including Rating Scheme and Cost Analysis
RECOMMENDATIONS
EVIDENCE SUPPORTING THE RECOMMENDATIONS
BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS
CONTRAINDICATIONS
QUALIFYING STATEMENTS
IMPLEMENTATION OF THE GUIDELINE
INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES
IDENTIFYING INFORMATION AND AVAILABILITY
DISCLAIMER

SCOPE

DISEASE/CONDITION(S)

Diseases or conditions requiring endoscopic enteral feeding

GUIDELINE CATEGORY

Assessment of Therapeutic Effectiveness
Management

CLINICAL SPECIALTY

Gastroenterology

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To provide an updated, practical strategy for the use of endoscopically placed enteral feeding tubes in patients who are unable to maintain sufficient oral intake

TARGET POPULATION

Patients with an intact, functional gastrointestinal tract who are unable to consume sufficient calories to meet metabolic demands

INTERVENTIONS AND PRACTICES CONSIDERED

Management

1. Percutaneous endoscopic gastrostomy (PEG)
2. Jejunal extension through a PEG (PEG-J)
3. Direct endoscopic jejunostomy (D-PEJ)
4. Surgical gastrostomy
5. Antimicrobial prophylaxis in patients not already receiving appropriate antibiotic treatment at the time of the PEG insertion

MAJOR OUTCOMES CONSIDERED

- Mortality
- Survival
- Quality of life
- Complication rates

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

In preparing this update, a MEDLINE literature search was performed, and additional references were obtained from the bibliographies of the identified articles and from the recommendations of expert consultants.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Guidelines for appropriate utilization of endoscopy are based on a critical review of the available data and expert consensus.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Not stated

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not applicable

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Indications

Percutaneous endoscopic gastrostomy (PEG) should be considered for patients who have an intact, functional gastrointestinal tract, but are unable to consume sufficient calories to meet metabolic demands. PEG may not be appropriate in some patients with rapidly progressive and incurable diseases or when peroral feedings are expected to resume within 30 days, since short-term nasoenteric feedings may provide similar results. Frequent indications for PEG placement include impaired swallowing associated with neurologic conditions and neoplastic diseases of the oropharynx, larynx, and esophagus. Less commonly, PEG placement is performed in patients with head/facial trauma and in those with miscellaneous catabolic conditions who require supplemental feedings. PEG may also be useful to attain chronic gastric decompression in selected individuals with benign and malignant gastrointestinal (GI) tract obstruction.

Jejunal extension through a PEG (PEG-J) or direct endoscopic jejunostomy (D-PEJ) are appropriate for patients with severe gastroesophageal reflux or gastroparesis or those in whom repeated tube feeding-related aspiration occurs. Although this may diminish the frequency of feeding- related gastric aspiration, it is of questionable value in preventing episodes of oropharyngeal aspiration and pneumonia.

Contraindications

Absolute contraindication to percutaneous endoscopic gastrostomy (PEG) placement includes the inability to bring the anterior gastric wall in apposition to the abdominal wall, pharyngeal or esophageal obstruction, and uncorrectable coagulopathy. Prior gastric resection, ascites, hepatomegaly, and obesity are some conditions which may impede gastric transillumination and subsequent PEG placement. PEG should not be used for nutritional support when gastrointestinal tract obstruction is present. Relative contraindications to PEG include neoplastic, inflammatory, and infiltrative diseases of the gastric and abdominal walls. The usual list of absolute and relative contraindications relating to the performance of upper endoscopy also applies. Similar contraindications apply to jejunal extension through a PEG (PEG-J) and direct endoscopic jejunostomy (D-PEJ).

Techniques

The most widely used technique of PEG is the "pull" method introduced by Gauderer and Ponsky in 1980. Several modifications of the original technique have been reported. The gastrostomy tube may be placed by a "push" method, which yields comparable results. Another technique termed the "introducer method" may be used in which the stomach is directly punctured and a Foley-type catheter is advanced over a guidewire. A radiologic percutaneous method for gastrostomy placement has also been described. While a particular advantage of this latter technique is its use in the setting of high-grade pharyngeal or esophageal obstruction, a major drawback relates to its inability to detect mucosal pathology. A one-step button (OSB) gastrostomy device has also been developed using push methodology. The basic elements common to all these techniques include:(1) the need for adequate gastric insufflation to bring the anterior gastric wall in apposition with the abdominal wall; (2) percutaneous placement of a tapered cannula into the stomach; (3) passage of a suture or guidewire into the stomach; (4) placement of the gastrostomy tube/button; and (5) verification of

proper tube/button positioning. Critical to the safe and successful placement of a PEG is that adequate gastric insufflation be attained for the required apposition.

Jejunal feeding can be achieved through placement of a feeding tube through a previously placed PEG. While the technical success of initial feeding tube placement beyond the ligament of Treitz may be high, the functional success is largely disappointing due to frequent retrograde migration of tubes back into the stomach and tube dysfunction due to kinking or obstruction. The D-PEJ technique is a modification of PEG placement. While similar to PEG placement, D-PEJ placement is considerably more difficult to perform. The optimal time to begin feeding through the gastrostomy tube is controversial. Two randomized studies have compared early PEG feeding (3–4 hours post-procedure) with a 24-hour delay in initiation of feeding. There was no evidence of differences in safety between the two methods among the combined total of 153 patients, though hospital length of stay may be reduced with early refeeding.

Complications

Patients undergoing PEG are often at high risk for complications due to associated comorbidity. Minor complications associated with PEG placement occur in 13 to 43% of patients and include tube occlusion, maceration from leakage of gastric contents around the tube, and peristomal pain. Major complications, reported in 0.4 to 8.4% of procedures, include wound infections, necrotizing fasciitis, aspiration, bleeding, perforation, ileus, injury of internal organs, tumor seeding, and death. Procedure-related mortality has been reported to range from 0 to 2%, with a 30-day mortality in the range of 6.7 to 26%. This may be due, in part, to patients' underlying comorbidities. Pneumoperitoneum occurs commonly after PEG and is of no clinical significance unless accompanied by signs and symptoms of peritonitis. The most common complication is wound infection. Antimicrobial prophylaxis is recommended as it may reduce the frequency of peristomal wound infection and is cost-effective. Such prophylaxis is only necessary in those patients not already receiving appropriate antibiotic treatment at the time of the PEG insertion. A mature fistulous tract is required to safely replace a percutaneous gastrostomy tube/button. Nonendoscopic replacement of a dislodged tube/button is contraindicated in the absence of a mature tract. Nonoperative management of early dislodgement of PEG tubes has been described.

Outcomes

The long-term outcomes of patients who undergo PEG depend upon the underlying indication for the PEG. In a cohort of 7,369 veterans who underwent PEG, 23.5% died during the hospital admission during which the PEG was placed and the median survival was only 7.5 months. In another study of 81,105 older Medicare beneficiaries who underwent gastrostomy placement (59,969 PEG and 21,136 operatively placed), in-hospital mortality occurred in 15.3%. The 1- and 3-year mortality rates were 63.0% and 81.3%, respectively. Among 598 patients undergoing PEG at a single institution, 154 patients recovered an adequate oral diet to have the PEG removed after 169 $\pm$ 244 days (range 6 to 1,337).

Comparison of PEG with Surgical Gastrostomy

Although PEG may be slightly less expensive than surgical gastrostomy, the weight of evidence suggests that when performed on a regular basis, the complication rates of both approaches are similar. The placement of gastrostomy tubes by the laparoscopic route is another option, especially for patients unable to undergo PEG for technical reasons. The availability of local expertise with a particular method continues to be a critical factor when choosing among the various options for gastrostomy placement.

Ethical Considerations

Although a PEG may be beneficial in some patients, in others its value is being questioned. While nutrition is considered to be one of the most basic human needs, the use of feeding tubes to provide this nutrition may not match societal values in some situations. Given that tube placement is invasive and may be painful, one must consider whether the benefits of a treatment outweigh the burdens for each patient. The implications of long-term nutritional support with a PEG may have major implications for both patients and their families. Therefore, placement of a feeding tube requires careful consideration of each individual case. A decision-making algorithm has been proposed which integrates the medical and ethical dimensions of the decision to offer a PEG. However, it is very difficult to measure quality of life in neurodegenerative patients to determine the benefit of nutrition or PEG use. In certain circumstances, PEG placement may be appropriate to provide fluids and medications for comfort care even in patients with a limited long-term prognosis in whom nutrition may not be perceived as beneficial. Recommendations for PEG placement should be individualized with consideration given to quality of life and prospects for recovery.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation.

When inadequate data existed from well-designed prospective trials, emphasis was given to results from large series and reports from recognized experts. Guidelines for appropriate utilization of endoscopy are based on a critical review of the available data and expert consensus.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate use of endoscopy in enteral feeding

POTENTIAL HARMS

- Patients undergoing percutaneous endoscopic gastrostomy (PEG) are often at high risk for complications due to associated comorbidity.
- Minor complications associated with PEG placement occur in 13 to 43% of patients and include tube occlusion, maceration from leakage of gastric contents around the tube, and peristomal pain.
- Major complications, reported in 0.4 to 8.4% of PEG procedures include wound infections, necrotizing fasciitis, aspiration, bleeding, perforation, ileus, injury of internal organs, tumor seeding, and death.
- Procedure-related mortality has been reported to range from 0 to 2%, with a 30-day mortality in the range of 6.7 to 26%. This may be due, in part, to patients' underlying comorbidities.
- Pneumoperitoneum occurs commonly after PEG and is of no clinical significance unless accompanied by signs and symptoms of peritonitis. The most common complication is wound infection.

CONTRAINDICATIONS

CONTRAINDICATIONS

- Absolute contraindication to percutaneous endoscopic gastrostomy (PEG) placement includes the inability to bring the anterior gastric wall in apposition to the abdominal wall, pharyngeal or esophageal obstruction, and uncorrectable coagulopathy. Prior gastric resection, ascites, hepatomegaly, and obesity are some conditions which may impede gastric transillumination and subsequent PEG placement. PEG should not be used for nutritional support when gastrointestinal tract obstruction is present.
- Relative contraindications to PEG include neoplastic, inflammatory, and infiltrative diseases of the gastric and abdominal walls.
- The usual list of absolute and relative contraindications relating to the performance of upper endoscopy also applies.
- Similar contraindications apply to jejunal extension through a PEG (PEG-J) and direct endoscopic jejunostomy (D-PEJ).
- Nonendoscopic replacement of a dislodged tube/button is contraindicated in the absence of a mature tract.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- Controlled clinical studies are needed to clarify aspects of this statement, and revision may be necessary as new data appear. Clinical consideration may justify a course of action at variance from these recommendations.
- The information given in this guideline is intended only to provide general information and not as a definitive basis for diagnosis or treatment in any particular case. It is very important that individuals consult their doctors about specific conditions.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness
Safety

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Eisen GM, Baron TH, Dominitz JA, Faigel DO, Goldstein JL, Johanson JF, Mallery JS, Raddawi HM, Vargo JJ 2nd, Waring JP, Fanelli RD, Wheeler-Harbough J. Role of endoscopy in enteral feeding. Gastrointest Endosc 2002 Jun;55(7):794-7. [53 references] PubMed

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2002 Jun

GUIDELINE DEVELOPER(S)

American Society for Gastrointestinal Endoscopy - Medical Specialty Society

SOURCE(S) OF FUNDING

American Society for Gastrointestinal Endoscopy

GUIDELINE COMMITTEE

Standards of Practice Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Committee Members: Glenn M. Eisen, MD (Chair); Todd H. Baron, MD; Jason A. Dominitz, MD; Douglas O. Faigel, MD; Jay L. Goldstein, MD; John F. Johanson, MD; J. Shawn Mallery, MD; Hareth M. Raddawi, MD; John J. Vargo II, MD; J.

Patrick Waring, MD; Robert D. Fanelli (SAGES Representative); Jo Wheeler-Harbough (SGNA Representative)

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the American Society for Gastrointestinal Endoscopy (ASGE) Web site.

Print copies: Available from the American Society for Gastrointestinal Endoscopy, 1520 Kensington Road, Suite 202, Oak Brook, IL 60523

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on October 15, 2004. The information was verified by the guideline developer on November 5, 2004.

COPYRIGHT STATEMENT

DISCLAIMER

NGC DISCLAIMER

The National Guideline Clearinghouse™ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria which may be found at http://www.guideline.gov/about/inclusion.aspx.

NGC, AHRQ, and its contractor ECRI make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.

Date Modified: 9/25/2006